Geographic Information Technology Standards for Horizontal Datum and Coordinate System

Adopted by the Information Services Board (ISB) on February 6, 2003
Effective: February 6, 2003

Table of Contents

Introduction

In December 2001, the Information Services Board (ISB) created the Subcommittee on Geographic Information Technology to "...represent the strategic interest of a coordinated, enterprise approach to utilizing geographic information technology and, provide leadership for implementation of cost effective, collaboratively developed, spatial data management solutions."

Determining and referencing location is a fundamental value of geographic information. Adoption of a standard Datum and Coordinate System provides a foundation for data integration and error reduction.

The objective of this standard is to provide foundational elements for integration and reuse of the States investment in significant geo-datasets. Geodata holdings that are built on common technical standards of registration (datum) and reference (coordinate system) enable or facilitate:

- Emergent data exchange for key datasets,
- Reduction of staff time spent re-projecting from one datum/coordinate system to another,
- On the fly integration of distributed and separately maintained geo-datasets and,
- Minimize content distortions and error introduction brought on by multiple re-projections/re-sampling

Statutory Authority

The provisions of RCW 43.105.041 detail the powers and duties of the ISB, including the authority to develop statewide or interagency information services and technical policies, standards, and procedures.

Scope

These standards apply to all executive and judicial branch agencies and educational institutions, as provided by law, that operate, manage, or use IT services or equipment to support critical state business functions.

Exemptions

None.

Standard

In support of the above objectives Washington State adopts the following technical standards related to Datum and Coordinate Systems for significant geo-datasets. This standard is intended to apply to existing and new 'significant' agency geo-datasets

Datum:

North American Datum 1983 (1991 adjustment) as defined by the National Geodetic Survey. (Also referred to as: NAD83/91)

Coordinate System:

The standard coordinate system shall be Washington Coordinate System of 1983 alternately, Geographic Coordinate System may be used.

Washington Coordinate System of 1983

The system of plane coordinates established by the National Geodetic Survey for defining and stating the positions or locations of points on the surface of the earth within the state of Washington is referred to as the Washington Coordinate System of 1983.

The coordinate system standard for significant geo-dataset is Washington Coordinate System of 1983 (WCS 83) zone appropriate for geo-datasets that are maintained within the WCS 83 North zone or, WCS 83 South zone.

The standard is Washington Coordinate System of 1983 South zone if the geo-dataset is maintained as a statewide layer or, a regional layer crossing zones.

Standard unit of measure is US Survey Foot. For agencies that must maintain unit of measure in meters, the standard conversion of coordinates between the meter and the US survey foot shall be based upon the length of the meter being equal to exactly 39.37 inches.

Geographic Coordinate System

Alternately, geospatial data may be stored in geographic coordinates on the North American Datum of 1983/91, in decimal degrees with negative West longitudes and positive North latitudes.

Geographic coordinates (latitude & longitude values) on a geo-centric datum comprise a reference system for measuring Earth locations. This system provides a continuous, consistent reference framework for locating features anywhere in the state and beyond. The system is readily compatible with global positioning system data and is the reference system intended for Washington State Geospatial Framework data.

Definitions

Geo-datasets are digital collections of spatial information primarily managed or edited by geographic information system (GIS) software. Although some computer aided design (CAD) systems have GIS like functions, for purposes of this definition, CAD systems are not considered GIS.

'Significant geo-datasets' meet one or more of the following criteria:

1. geodata set is mission critical for agency or major program or is required for regulatory purposes and/or,
2. estimated or expected life cycle costs or investment exceed $500,000 and/or,
3. geodata is regularly distributed outside agency and/or,
4. geodata holding has been designated significant by Information Services Board.

When completed, data sets developed as part of the Washington State Geospatial Framework will meet this definition.

Implementation

- By August 30, 2003 – agencies list their significant geodata sets and send copy of list to their DIS Senior Technology Consultant
- By January 30, 2004 – agencies file a copy of their conversion plan with their DIS Senior Technology Consultant
- June 30, 2004 – all significant geo-datasets will be maintained or readily available on demand (within one business day) in the standard datum and coordinate system
- Agency director will confirm implementation status of GIT standards in their annual IT Portfolio Update Confirmation Letter

Related Policies, Standards, and Guidelines

Geographic Information Technology Standards for Metadata
ISB Geographic Information Technology Policy and Standards Process
Information Technology Portfolio Management Policy

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Maintenance

Technological advances and changes in the business requirements of agencies will necessitate periodic revisions to policies, standards, and guidelines. The Department of Information Services is responsible for routine maintenance of these to keep them current. Major policy changes will require the approval of the ISB.